Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for generating an electronic version of a document, the method comprising ~~the steps of~~ :

receiving a plurality of digital, electronic images of the document;

generating a corrected image from each received image;

deriving one or more motion parameters for each pair of consecutive, corrected images, the motion parameters indicating the relative motion between the consecutive, corrected images, the motion parameters are derived by minimizing the sum of squares differences between each pair of consecutive images;

aligning each image relative to the previous images based on the derived motion parameters; and

blending each image into the previous images so as to produce the electronic version of the document.

Claim 2 (original): The method of claim 1 wherein the digital, electronic images are produced by a digital video camera.

Claim 3 (currently amended): The method of claim 1 wherein two or more series of digital, electronic images of the document are received, whereby each series of images corresponds to a respective sweep of the document by the video camera, the method further comprising ~~the steps of~~:

merging the images from each series together to form a composite, mosaic image of the respective sweeps ; [[,]] and

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merging consecutive mosaic sweep images together to form the electronic version of the document.

Claim 4 (cancelled)

Claim 5 (currently amended): The method of claim 1 [[4]] wherein :
~~in~~ the corrected image frames include a plurality of pixels ; [[,]] and
the sum of squares differences is applied on a pixel-by-pixel basis.

Claim 6 (currently amended): The method of claim 5 wherein the sum of squares differences is substantially given by the following equation:

$$E = \sum_{i,j} e^2(i, j)$$

wherein ~~with~~, $e(i, j) = I(i, j) - I'(i', j')$; and wherein (i, j) and (i', j') are corresponding pixel locations in a previous image and a current image, respectfully.

Claim 7 (currently amended): The method of claim 6 wherein the motion model has eight motion parameters, m_0, m_1, m_2, m_3, m_4, m_5, m_6 and m_7 defined by:

$i' = (m_0 + m_2 i + m_3 j)/(m_6 + m_7 j + 1)$; and

$j' = (m_1 + m_4 i + m_5 j)/(m_6 + m_7 j + 1)$.

Claim 8 (currently amended): The method of claim 7 further comprising ~~the step~~ of subsampling the received images, ~~and~~ wherein ~~it is assumed that~~ :

$m_2=m_5=1$; [[,]] and

$m_3=m_4=m_6=m_7=0$.

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Claim 9 (currently amended): The method of claim 8 wherein ~~the step of~~ subsampling the received images comprises ~~the step of~~ discarding one out of two pixels in both the horizontal and vertical directions from each received image.

Claim 10 (currently amended): The method of claim 7 wherein ~~it is assumed that~~:

$m_5=m_2$;

$m_4=m_3$; and

$m_6=m_7=0$.

Claim 11 (currently amended): The method of claim 7 wherein:

the received image frames have YUV color space components, ~~where~~ wherein Y corresponds to luminance and U and V correspond to chrominance [[,]] ;

the motion parameters are derived only for the Y component of the corrected images [[,]] ; and

the derived motion parameters for the Y component are scaled for U and V components.

Claim 12 (currently amended): The method of claim 6 further comprising ~~the step of~~ performing a spline-based registration on consecutive mosaic sweep images.

Claim 13 (currently amended): The method of claim 2 wherein the ~~step of~~ generating a corrected image comprises ~~the steps of~~ :

building at least one look-up table ~~(LUT)~~ having, for each pixel of the received image frames, a corresponding entry containing a correction factor; and

applying the corresponding correction factors to the pixels of the received image frames to produce the corrected images.

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Claim 14 (currently amended): The method of claim 9 wherein the correction factors stored at the at least one look-up table ~~LUT~~ correct for off-axis illumination and radial lens distortion.

Claim 15 (currently amended): A system for generating an electronic version of a document, the system comprising:

an image correction engine configured to receive a plurality of digital, electronic images of the document and to generate a corrected image from each received image;

at least one motion estimation engine configured to compare consecutive, corrected images and to derive for each pair of consecutive corrected images one or more motion parameters defining the relative motion between the respective images by minimizing a sum of squares differences between each pair of consecutive images; and

at least one alignment and blending image configured to use the derived motion parameters to align and blend consecutive images to produce the electronic version of the document.

Claim 16 (original): The system of claim 15 wherein the digital electronic images of the document are received from a digital video camera.

Claim 17 (cancelled)

Claim 18 (currently amended): The system of claim 17 further comprising at least one look-up table ~~(LUT)~~ containing, for each pixel of the received images, a corresponding entry containing a correction factor, and wherein the image correction engine utilizes the correction factors stored at the at least one look-up table ~~LUT~~ to produce the corrected images.

Claim 19 (currently amended): The system of claim 18 wherein:

the digital video camera is mounted to a stand [[,]] ; and

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the correction factors stored at the at least one look-up table EUF correct for off-axis illumination and radial lens distortion of the video camera, and for tilt of the video camera relative to the stand.

Claim 20 (original): The system of claim 19 wherein the at least one motion estimation engine includes an image pyramid having a plurality of levels, each level of the image pyramid configured to perform an iterative gradient descent operation and a convergence operation on consecutive images to produce the one or more motion parameters, the motion parameters from a given level being used as a starting point for the iterative gradient descent and convergence operations of the next level of the pyramid.

Claim 21 (currently amended): A computer system for use in scanning a document, the computer system comprising:

a base;

a display panel pivotally attached to the base;

a digital camera mounted to the display panel;

an image correction engine configured to receive a plurality of images of the document from the digital camera, and further configured to generate a corrected image from each received image;

at least one motion estimation engine configured to compare consecutive, corrected images and to derive for each pair of consecutive corrected images one or more motion parameters defining the relative motion between the respective images by minimizing a sum of squares differences between each pair or consecutive images; and

at least one alignment and blending image configured to use the derived motion parameters to align and blend consecutive images to produce a canned image of the entire document.

Claim 22 (cancelled)

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Claim 23 (currently amended): The computer system of claim 22 further comprising at least one look-up table ~~(LUT)~~ containing, for each pixel of the received images, a corresponding entry containing a correction factor, and wherein the image correction engine utilizes the correction factors stored at the at least one look-up table ~~LUT~~ to produce the corrected images.

Claim 24 (original): The computer system of claim 23 wherein the at least one motion estimation engine includes an image pyramid having a plurality of levels, each level of the image pyramid configured to perform an iterative gradient descent operation and a convergence operation on consecutive images to produce the one or more motion parameters, the motion parameters from a given level being used as a starting point for the iterative gradient descent and convergence operations of the next lower level of the pyramid.

Claim 25 (new): A method for generating an electronic version of a document, the method comprising:

receiving a plurality of digital, electronic images of the document, said electronic images being produced by a digital video camera;

generating a corrected image from each received image, said generating comprising building at least one look-up table having, for each pixel of the received image frames, a corresponding entry containing a correction factor; and

applying the corresponding correction factors to the pixels of the received image frames to produce the corrected images;

deriving one or more motion parameters for each pair of consecutive, corrected images, the motion parameters indicating the relative motion between the consecutive, corrected images;

aligning each image relative to the previous images based on the derived motion parameters; and

blending each image into the previous images so as to produce the electronic version of the document.

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Claim 26 (new): The method of claim 25 wherein two or more series of digital electronic images of the document are received, whereby each series of images corresponds to a respective sweep of the document by the video camera, the method further comprising:

merging the images from each series together to form a composite, mosaic image of the respective sweeps; and

merging consecutive mosaic sweep images together to form the electronic version of the document.

Claim 27 (new): The method of claim 26 wherein the step of deriving the one or more motion parameters comprises minimizing a sum of squares differences between each pair of consecutive images.

Claim 28 (new): The method of claim 27 wherein the corrected image frames include a plurality of pixels, and the sum of squares differences is applied on a pixel-by-pixel basis.

Claim 29 (new): The method of claim 28 wherein the sum of squares differences is substantially given by the following equation:

$$E = \sum_{i,j} e^2(i, j)$$

wherein $e(i, j) = I(i, j) - I'(i', j')$; and wherein (i, j) and (i', j') are corresponding pixel locations in a previous image and a current image, respectfully.

Claim 30 (new): The method of claim 29 wherein the motion model has eight motion parameters, m_0, m_1, m_2, m_3, m_4, m_5, m_6 and m_7 defined by:

$i' = (m_0 + m_2 i + m_3 j)/(m_6 + m_7 j + 1)$; and

$j' = (m_1 + m_4 i + m_5 j)/(m_6 + m_7 j + 1)$.

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Claim 31 (new): The method of claim 30 further comprising subsampling the received images wherein m_1 and m_5 are equal to one and m_3, m_4, m_6, *and* m_7 are equal to zero.

Claim 32 (new): The method of claim 31 wherein the step of subsampling the received images comprised the step of discarding one out of two pixels in both the horizontal and vertical directions from each received image.

Claim 33 (new) The method of claim 32 wherein the correction factors stored at the at least one look-up table correct for off-axis illumination and radial lens distortion.

Claim 34 (new): The method of claim 30 wherein:

m_2 equals m_5;

m_3 equals $-m_4$; and

m_6 and m_7 are equal to zero.

Claim 35 (new): The method of claim 30 wherein:

the received image frames have YUV color space components, where Y corresponds to luminance and U and V correspond to chrominance;

the motion parameters and derived only for the Y component of the corrected images; and

the derived motion parameters for the Y component are scaled for U and V components.

Claim 36 (new): The method of claim 29 further comprising performing a spline-based registration on consecutive mosaic sweep images.

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